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(54) **COMPACT DRIVE SHAFT FLOATING SEAL SYSTEM**

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(52) **U.S. Cl.** **277/372; 277/384**

(58) **Field of Search** **277/372, 384,**
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(57) **ABSTRACT**

A compact floating seal system for sealing a rotating shaft within a structure. The floating seal system has a cylindrical outer seal housing positioned within the structure with a cylindrical internal recessed region formed in the outer seal housing and a retaining flange extending into the internal recessed region. An axial retaining means axially retains the outer seal housing against the structure, and an outer torque member prevents rotation of the outer seal housing with respect to the structure. An inner seal housing is retained within the internal recessed region and abuts the retaining flange for preventing axial movement of the housing. The inner seal housing has a shaft aperture therethrough. First and second sealing member retaining grooves formed within the shaft aperture retain O-rings. A lubricant recess is formed within the shaft aperture between the grooves. A rotation prevention means allows radial deflection of the inner seal housing within the outer seal housing but prevents rotation of the inner seal housing with respect to the outer seal housing.

12 Claims, 5 Drawing Sheets

